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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,619	01/24/2002	Ivan J. Baiges	10017070-1	2301

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EXAMINER	
MOUTTET, BLAISE L	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,619	BAIGES, IVAN J.	
	Examiner	Art Unit	
	Blaise L Mouttet	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19 and 21-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19 and 21-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-6, 8-14, 18, 19, 21-28, 30-33 and 35-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yashima et al. US 6,164,747 in view of Granzow US 5,677,719.

Yashima et al. discloses, regarding claims 1 and 19, a printing system for depositing marking fluid on print media (column 16, lines 42-45) comprising:

a first marking engine/printhead assembly (31A) for depositing a first marking fluid on a first portion of a first side of the print media as shown and described in relation to figure 10;

a second marking engine/printhead assembly (31B) for depositing a second marking fluid on a second portion of a first side of the print media different from the first portion as shown and described in relation to figure 10,

wherein the first marking engine (31A) and the second marking engine (31B) are adapted to move back and forth across the print media along a first direction (direction of guide shafts 32) while depositing the respective first and second marking fluid on the

respective first and second portions of the media along the first direction (column 16, lines 42-56).

Regarding claims 2 and 19, the printing system further includes

a first mechanism (32-34) coupled to the first marking engine (31A) for moving the first marking engine (31A) back and forth across the print media so that the first marking engine (31A) can deposit the first marking fluid (ink) on the first portion of the print media as shown and described in relation to figure 10; and

a second mechanism (32-34) coupled to the second marking engine (31B) for moving the second marking engine (31B) back and forth across the print media so that the second marking engine (31B) can deposit the second marking fluid (ink) on the second portion of the print media as shown and described in relation to figure 10.

Regarding claim 3, the mechanisms are spaced apart as indicated in figure 10.

Regarding claim 4, the mechanisms employ identical structure as shown and described in relation to figure 10.

Regarding claim 5, the mechanisms each include:

a linear guide rod (32) for guiding the respective marking engines (31A, 31B);

a drive motor (33); and

a drive element (34) coupled between drive motor (33) and the marking engines (31A, 31B) linearly moving the respective engines along the guide rods (32) back and forth across the media as shown and described in relation to figure 10.

Regarding claims 6 and 33, the print media is shorter in the print scan direction than in the media feed direction.

Regarding the functional language of claims 8 and 21-24, the mechanisms are taught to operate in unison (column 17, lines 10-23).

Regarding the functional language of claims 9 and 25-28, the mechanisms are taught to operate independently (column 17, lines 24-27).

Regarding claim 10, identical marking fluids are taught to be contained in the respective marking engines in the case of monochrome printing (column 16, lines 9-13).

Regarding claim 11, different marking fluids are taught to be contained in the respective marking engines in the case of color printing (column 17, lines 30-34).

Regarding claim 12, identical marking engines (31A, 31B) are disclosed as shown and described in relation to figure 1.

Regarding claim 13, single color (black) printheads are taught for each marking engine (column 16, lines 9-14).

Regarding claim 14, multicolor printheads are taught for each printing engine (column 17, lines 30-34).

Regarding claim 18, thermal ink ejection is utilized (column 10, lines 15-26).

Regarding the arrangements of the first and second mechanisms as specified in claims 35-40, the mechanisms are adapted to function as claimed as shown and described in relation to figure 10.

Yashima et al. discloses, regarding claim 30, a method for performing a printing operation for depositing ink on print media, the method comprising:

providing a first movable printhead assembly (31A) for depositing ink (column 16, lines 42-47);

providing a second movable printhead assembly (31B) for depositing ink (column 16, lines 42-47); and

moving the first and second printhead assemblies back and forth across the print media along the first direction while the first printhead assembly deposits ink on a first portion of a first side of the print media and the second printhead assembly deposits ink on a second portion of the first side of the print media different from the first portion along the first direction (figure 10, column 20, lines 43-52).

Regarding claim 31, Yashima et al. teaches the inclusion of a step of moving the printheads in unison (column 20, lines 43-52).

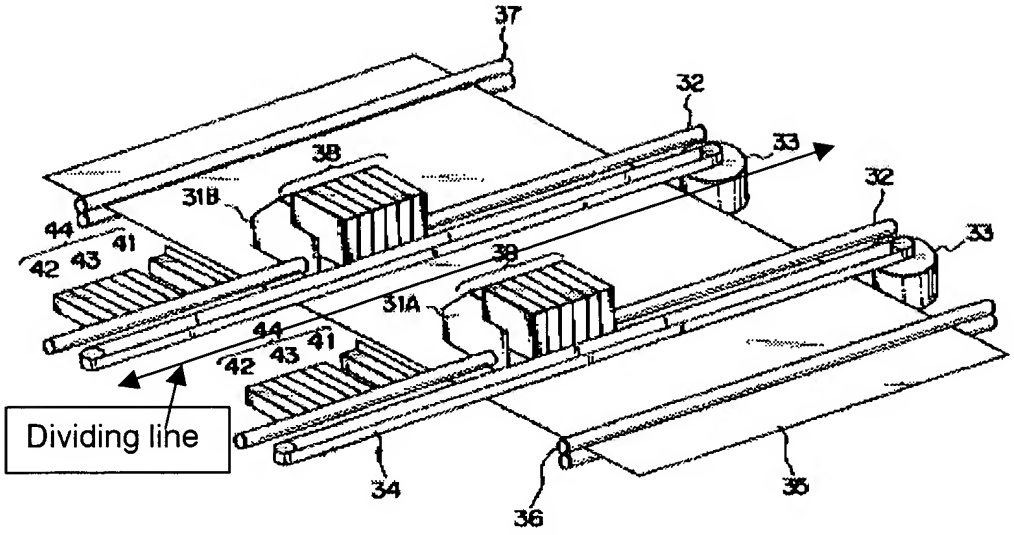
Regarding claim 32, Yashima et al. teaches the inclusion of a step of moving the printheads independently (column 20, lines 33-43).

Regarding claim 41, the printhead assemblies are moved back and forth across the print media in a first direction and the printhead assemblies are spaced apart in a direction perpendicular to the first direction as indicated in figure 10 and column 20, lines 43-52.

Regarding claim 42, moving of the printhead assemblies is performed such that during the steps described in column 20, lines 43-52 printhead assembly 31A deposits ink on one side of a dividing line and printhead assembly 31B deposits ink only on the other side of a dividing line.

Regarding claim 43, moving of the printhead assemblies is performed and the assemblies are spaced apart as shown and described in relation to figure 10.

FIG. 10



Yashima et al. discloses, regarding claim 44, a system for printing on print media (35), the system comprising:

means for moving (31A) across the print media along a first direction and depositing a first marking fluid on a first portion of a first side of the print media along the first direction as shown and described in relation to figure 10;

means for moving (31B) across the print media along the first direction and depositing a first marking fluid on a first portion of a first side of the print media along the first direction as shown and described in relation to figure 10; and

means for moving the print media (1709) in a second direction substantially perpendicular to the first direction (column 17, lines 55-56).

Yashima et al. fails to disclose, regarding claim 1, that the first marking engine is excluded from marking in the second portion and that the second marking engine is excluded from marking on the first portion.

Yashima et al. fails to disclose, regarding claim 19, that the first movable printhead assembly deposits ink only on the first unprinted portion and the second movable printhead assembly deposits ink only on the second unprinted portion.

Yashima et al. fails to disclose, regarding claim 30 and 44, initially positioning the print media so that the first movable printhead assembly/means for moving deposits ink only on the first portion and the second movable printhead assembly/means for moving deposits ink only on the second portion.

Granzow teaches positioning an unprinted print receiving surface so that a first movable printhead assembly (130) and second movable printhead assembly (132) deposit ink only on a first and second portion respectively without depositing ink on other portions (column 5, lines 12-22).

It would have been obvious for a person of ordinary skill in the art at the time of the invention to position an unprinted print medium in the system and method of Yashima et al. so that the first movable printhead assembly and the second movable printhead assembly deposit ink only on the first and the second portions respectively without depositing ink other on portions as suggested by Granzow.

The motivation for doing so would have been to achieve faster printing speed as taught by column 5,lines 12-22 of Granzow.

2. Claims 7 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yashima et al. US 6,164,747 in view Granzow US 5,677,719, as applied to claims 2 and 30, and further in view of Logan US 4,910,871.

Yashima et al. in view of Granzow renders obvious the claimed invention as recited in claims 2 and 30 as noted in the 35 USC 103 rejection above.

Yashima et al. in view of Granzow fails to disclose that the size of the media is longer along the print scan axis than the media feed axis.

Logan suggests printing on media such as mail envelopes wherein the size of the media is longer along the print scan axis than the media feed axis (figure 2).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include a print media arranged in a manner as suggested by Logan in the printing system of Yashima et al. in view of Granzow.

The motivation for doing so would have been to achieve printing on different paper sizes and on envelopes.

3. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yashima et al. US 6,164,747 in view Granzow US 5,677,719, as applied to claim 12, and further in view of Asakawa US 4,940,998.

Yashima et al. in view of Granzow renders obvious the claimed invention as recited in claim 12 as noted in the 35 USC 103 rejection above.

Yashima et al. discloses, regarding claims 16 and 17, different single colors in each of the marking engines of multiple colors (column 17, lines 24-34).

Yashima et al. in view of Granzow fails to disclose, regarding claim 15, individual printheads for the different single colors in each of the marking engines of multiple colors.

Asakawa discloses individual printheads for different single colors.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide individual printheads for the different colors of Yashima et al. in view of Granzow as taught by Asakawa.

The motivation for doing so would have been to provide for individual replacement of printheads as suggested by column 2, lines 51-59 of Asakawa.

4. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yashima et al. US 6,164,747 in view Granzow US 5,677,719, as applied to claim 19, and further in view of Chapin et al. US 5,838,343.

Yashima et al. in view of Granzow renders obvious the claimed invention as recited in claim 19 as noted in the 35 USC 103 rejection above.

Yashima et al. in view of Granzow fails to disclose a third carriage mechanism for moving a third printhead assembly in the first direction.

Chapin et al. discloses a multiplicity of carriage mechanism (>2) for transporting printheads over a print medium.

It would have been obvious to a person of ordinary skill in the art to provide additional carriage mechanisms parallel to the first and second carriage mechanisms of Yashma et al. as taught by Chapin et al.

The motivation for doing so would have been to provide redundancy in case of a faulty carriage printhead as suggested by Chapin et al.

Response to Arguments

5. The examiner agrees that the amendment of March 8, 2004 overcomes the rejections of the prior office action. However the amendment necessitated a further review of the prior art resulting in the new rejections presented above.

Additional Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ross et al. US 6,593,953 discloses increasing printing speed by providing plural inkjet marking engines.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Blaise Mouttet who may be reached at telephone number (571) 272-2150. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, Art Unit 2853, can be reached at (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Blaise Mouttet April 1, 2004

BM 4/1/2004

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